



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,751	02/21/2006	Franz-Josef Koerber	1034193000040	6674
21839 7590 03/26/2010 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404				
EXAMINER				
LUO, DAVID S				
ART UNIT		PAPER NUMBER		
2837				
NOTIFICATION DATE		DELIVERY MODE		
03/26/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com
offserv@bipc.com

Office Action Summary

Application No.

10/568,751

Applicant(s)

KOERBER, FRANZ-JOSEF

Examiner

DAVID S. LUO

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2010.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-22 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
4) ☐ Interview Summary (PTO-413)
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____
Paper No(s)/Mail Date _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,506,990 to Marin-Pache, and further in view of USPN 6,693,247 to Byers.

As to claim 1, Marin-Pache teaches an apparatus for actuating an electrical switching device high-voltage power breaker having at least one moving contact piece (Marin-Pache col. 2: lines 4-10), the at least one moving contact piece being driven via a rotating shaft that rotates about a first axis wherein an electric motor having a rotating drive shaft that rotates about a second axis (Marin-Pache col. 2: lines 11-19), which can be coupled to the rotating shaft for the switching device by means of a gear mechanism, is provided for the purpose of driving the rotating shaft to switch the switching device high-voltage power breaker on and off (Marin-Pache col. 2: lines 20-45 where a method is taught to connect the rotating shaft of the switching device to switch the different breaking modules through the transmission levers, which are equivalent to a gear mechanism).

Marin-Pache does not teach the use of a motor and a gear mechanism to drive the transmission device to switch the breaker on and off.

Byers teaches the use of a motor and a gear mechanism to drive the transmission device to switch the breaker on and off (Byers fig. 1G: “102 – motor” and col. 2: lines 3-15).

Marin-Pache does not teach **an electrical switching device wherein the first axis of the drive shaft runs parallel to the second axis of the rotating shaft in a common horizontal plane.**

It has been well-known in the art that **an electrical switching device wherein the first axis of the drive shaft runs parallel to the second axis of the rotating shaft in a common horizontal plane. This is supported by USPN 3,769,478 to Weston figs. 10-16 and col. 9: lines 6-25 where the shaft axis “92” runs parallel to the shaft axis “42-42a” in a common horizontal plane.**

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teachings of Byers into Marin-Pache since Marin-Pache suggests a high voltage multipole electrical switching device and Byers suggests the beneficial use of electrical motor and a gear mechanism in the analogous art of electrical power switching technology.

The motivation to implement the Byers into Marin-Pache comes from the fact Byers discloses the advantage of using motor motion control (indexing motion) and a gear mechanism for indexing motion of the movable contacts with simplicity and precision and have a longer arcing life of the contacts and a significant cost savings (Byers col. 4: lines 31-56).

Furthermore, “We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary

skill in the art, or, in some cases, from the nature of the problem to be solved". In re Dembiczak, 50 USPQ2d 1614.

As to claim 2, Marin-Pache in view of Byers teaches an apparatus as claimed in claim 1, an electric motor is provided for the purpose of driving all of the switch poles (Byers fig. 1G: "102 – motor" and col. 2: lines 3-15).

As to claim 3, Marin-Pache in view of Byers teaches an apparatus as claimed in claim 1, in the case of multi-pole switching devices, it is obvious for a person with ordinary skill in the art to use a separate electric motor for the purpose of driving each switch pole.

As to claim 4, Marin-Pache in view of Byers teaches an apparatus as claimed in claim 1, wherein the first axis of the drive shaft runs parallel to the second axis of the rotating shaft (Marin-Pache col. 2: lines 15-19).

As to claim 5, Marin-Pache in view of Byers teaches an apparatus as claimed in claim 1. It is well known in the art to use servomotor for positioning/indexing controls.

As to claim 6, Marin-Pache in view of Byers teaches an apparatus as claimed in claim 1, wherein the gear mechanism is a lever mechanism (Marin-Pache col. 2: lines 20-45 where a method is taught to connect the rotating shaft of the switching device to switch the different breaking modules through the transmission levers, which are equivalent to a gear mechanism).

As to claim 13, it is rejected as the same reason as claim 5.

As to claim 14, it is rejected as the same reason as claim 6.

As to claims 7-8 and 15-16, Marin-Pache teaches a multi-pole/multi-axis switchgear transmission mechanism (Marin-Pache col. 2: lines 4-19) and rotating the shaft at a specific degree (Marin-Pache col. 3: lines 28-36, col. 6: lines 1-20).

As to claims 9-12 and 17-22, Byers teaches a toothed gear drive system which can change the transmission ratio (Byers col. 2: lines 17-30) in the electrical switching device. It is obvious for a person with ordinary skill in the art to also use toothed belt drive which can change the transmission ratio as the toothed belt drive is equivalent to the toothed gear drive in functions.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Supporting Document No. 1: USPN 3,769,478 to Weston discloses an isolating circuit breaker and operating mechanism.

Response to Arguments

4. Applicant's arguments filed 01/13/2010 have been fully considered but they are not persuasive.

Applicant argues:

As to claim 1, Marin-Pache in view of Byers does not teach an electrical switching device wherein the first axis of the drive shaft runs parallel to the second axis of the rotating shaft in a common horizontal plane.

Examiner's response:

It has been well-known in the art that an electrical switching device wherein the first axis of the drive shaft runs parallel to the second axis of the rotating shaft in a common horizontal plane. This is supported by USPN 3,769,478 to Weston figs. 10-16 and col. 9: lines 6-25 where the shaft axis "92" runs parallel to the shaft axis "42-42a" in a common horizontal plane.

Applicant argues:

As to claim 1, based on the guidance provided in the *Marin-Pache* patent it appears that modifying this reference to include a structure in which the first axis of the drive shaft runs parallel to the second axis of the rotating shaft in a common horizontal plane, as recited in claim 1, would destroy the principle operation of the same. As such, even if these references were combinable as alleged, the proposed modification or combination of the *Marin-Pache* and *Byers* patents would change the principle of operation of the *Marin-Pache* invention being modified, such that the teachings of the references are not sufficient to render the claims *prima facie* obvious.

Examiner's response:

The examiner's supporting document USPN 3,769,478 to Weston teaches an electrical switching device wherein the first axis of the drive shaft runs parallel to the second axis of the rotating shaft in a common horizontal plane (Weston figs. 10-16 and col. 9: lines 6-25 where the shaft axis "92" runs parallel to the shaft axis "42-42a" in a common horizontal plane).

Marin-Pache in view of Byers teaches an apparatus for actuating an electrical switching device high-voltage power breaker having at least one moving contact piece as detailed in the examiner's above Office action for rejection on claim 1. Thus, it is obvious for a person of

ordinary skill in the art to combine the Marin-Pache and Byers references along with the well known knowledge (as disclosed in examiner's supporting document USPN 3,769,478 to Weston) to obtain the invention as claimed in claim 1 as all the cited prior art teachings are directed to the same area of electrical power switching/breaking technology.

Furthermore, "We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved". In re Dembiczak, 50 USPQ2d 1614.

Finally, Examiner's Official Note: Applicant's claims and arguments have been thoroughly and fairly considered per the current MPEP along with examiner's insight based on many years of professional electrical engineering experience. Thus, the rejections as set forth in the previous Office action dated 10/16/2009 are maintained.

Conclusion

5. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D.L./
David Luo
Art Unit 2837

/BENTSU RO/
Primary Examiner, Art Unit 2837